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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/605,890

11/04/2003

James A. DiLellio

03-0489

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07/27/2007

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EXAMINER

ISSING, GREGORY C

ART UNIT

PAPER NUMBER

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MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/605,890	Applicant(s) DILELLIO, JAMES A.	
	Examiner Gregory C. Issing	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/10/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 46-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46 purports to be both a product, in the form of a navigation receiver, and a process, in the form of the steps performed. The referencing of multiple statutory classes of invention is indefinite since the claim is ambiguous as to which class it is intended.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 39-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Hegarty et al or Stein et al in view Benedicto et al and Hollreiser et al..
5. Hegarty et al and Stein et al teach the conventionality in the art of Global Navigation Satellite Systems (GNSS) to include a plurality of navigation satellites transmitting positioning signals, a plurality of monitoring stations for measuring the satellite signals and transmitting the measurements to a central station, which central station gathers the measurements and performs processing thereof in order to determine integrity of the satellite transmissions. In the Dept. of Defense's GPS, the integrity information is relayed to users for use thereat in determining the integrity and reliability of the satellite navigation signals and the satellites' health (reliability data); the intended use of the integrity data being to determine if the satellite signal is useable in

a position determination. It is well-known that the user terminal in GPS as part of its design characteristics determines pseudoranges to each satellite in view using the satellite signal as well as satellite position from the almanac/ephemeris information in the navigation message of the signal for use in the determination of a position solution (PVT) of the user terminal, the position being used for a variety of tasks, most specifically navigation.

6. In each of Hegarty et al and Stein et al, the integrity information is transmitted to the user via an overlay geo-stationary satellite network (GEO) as opposed to the claimed transmission through the navigation satellites. The integrity information incorporating “use/don’t use” flags to identify untrustworthy satellites as well as coarse estimates of the pseudorange error size to determine if a position error is too large for accuracy requirements.

7. Benedicto et al teach: (1) the inclusion of a Signal in Space Accuracy signal in a satellite navigation message determined in a navigation facility NSCC, (2) the provision for broadcast of Integrity messages which indicate when the satellite signals are outside specification as determined by an Integrity Determination System, Figure 11, (3) the preference to provide an MEO-only constellation as opposed to the MEO + GEO constellation, (4) contributors to the accuracy being DOP, signal effects, and UERE, and (5) the user receiver is capable of rejecting signals from satellites to which an alert refer, or uses the signal in conjunction with other techniques such as RAIM to reduce the influence on the final computed position. Thus, Benedicto et al provide the suggestion to utilize an integrity message as part of the navigation satellite broadcasts, which is one of the reasons Galileo is considered advantageous to GPS.

8. Hollreiser et al teach conventional receiver architecture for a Galileo receiver in Figure 6 and described on page 1919, col. 2- page 1922, col. 1.

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9. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify either one of Hegarty et al or Stein et al, by incorporating the teachings of Benedicto et al to provide the integrity information via the navigation satellites as opposed to the geo-stationary satellites for the reasons set forth above. Moreover, it would have been obvious to the skilled artisan to make use of the type of information such as integrity and reliability as provided in the integrity dissemination procedure of Galileo as provided and used by the user receiver in view of the teachings of Hollreiser et al. The dependent claims are shown and/or are obvious to the skilled artisan in view of the known operations of each of the GNSS provided by GPS and/or Galileo. There is no apparent distinction between the SIS Integrity determination and navigation solution determination using integrity alarms and protection levels.

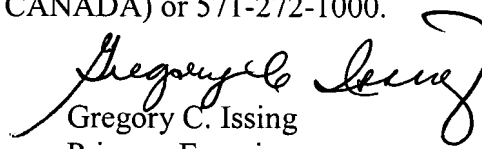
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. O,Keefe et al "Global Availability and Reliability Assessment of the GPS and Galileo Global Navigation Satellite Systems" discloses features with respect to the performance of a GNSS in terms of availability, accuracy, reliability and integrity. Braff et al teach the conventionality of the use of accuracy, integrity and reliability as important factors in evaluating a navigation system to be used by aircraft or ships. Braff et al also teach the GPS receiver being capable of testing itself and detecting most of its own failure modes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Gregory C. Issing
Primary Examiner
Art Unit 3662

gci